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**Alternate WWTF Cost Estimate (discharge to SWA)**



Alternate WWTF Cost Estimate (discharge to SWA)  
 Carnation Wastewater Treatment Facility  
 King County Department of Natural Resources and Parks

Date: 3/8/2005  
 By: S. Leung  
 Checked: B. Einfeld

DESCRIPTION	QTY.	UNIT	UNIT PRICE	INSTALL	TOTAL
<b>Wastewater Treatment Facility</b>					
<u>Capital Costs</u>					
Mobilization	1	LS	\$500,000		\$500,000
(5) Sitework					
Excavation	4,200	CY	\$30		\$126,000
Backfill	2,100	CY	\$30		\$63,000
Yard Piping	1	LS	\$150,000		\$150,000
Paving	20,400	SF	\$4		\$81,600
Misc. utilities	1	LS	\$200,000		\$200,000
Landscaping	1	LS	\$100,000		\$100,000
Fencing	1,000	LF	\$15		\$15,000
Lab/Admin Building					
Building Structure	3,500	SF	\$150		\$525,000
Lab Equipment	1	LS	\$100,000		\$100,000
Finish Lab/Admin Area	1,500	SF	\$50		\$75,000
Chemical storage	1	LS	\$100,000		\$100,000
HVAC	1	LS	\$100,000		\$100,000
Headworks/Treatment Basins					
Base slab concrete	260	CY	\$250		\$65,000
Wall concrete	530	CY	\$750		\$397,500
Elevated concrete	60	CY	\$500		\$30,000
Headworks Building	1,900	SF	\$100		\$190,000
Screening Equipment	1	LS	\$250,000	\$30,000	\$280,000
Aeration system	1	LS	\$150,000	\$50,000	\$200,000
Solids Handling/Wetwell Covers	1	LS	\$100,000		\$100,000
Odor control scrubber/ductwork	1	LS	\$500,000		\$500,000
MBR/UV Area					
Base slab concrete	140	CY	\$250		\$65,000
Wall concrete	50	CY	\$750		\$37,500
Metal roof structure over MBR area	2,450	SF	\$30		\$73,500
MBR Treatment equipment	1	LS	\$900,000	\$300,000	\$1,200,000
UV Disinfection equipment	1	LS	\$500,000	\$50,000	\$550,000
Effluent standpipe equipment	1	LS	\$100,000		\$100,000
Electrical and Controls (15% of total)	1	LS	\$888,600		\$888,600
Estimating Contingency	10	%		+	\$681,300
<i>Capital Costs Subtotal</i>					\$7,494,000
Contractor Overhead and Profit	10	%			\$749,400
Sales Tax	8.8	%		+	\$725,400
<i>Direct Construction Cost Subtotal</i>					<b>\$8,968,800</b>



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DESCRIPTION	QTY.	UNIT	UNIT PRICE	INSTALL	TOTAL
<u>Allied Costs</u>					
Consultant services					
30% design					\$827,000
Final design					\$990,000
CM Support Serv's	4	%			\$359,000
KC Admin and other allied costs				+	\$900,000
<i>Allied Costs Subtotal</i>					<b>\$3,076,000</b>
<b>Total WWTF Project Costs (Jan 2005)</b>					<b>\$12,044,800</b>
<b>Conveyance &amp; Discharge to Wetlands</b>					
<u>Capital Costs</u>					
(6) 12' HDPE - WWTF to Bagwell St.	1500	LF	\$95		\$143,000
(7) 12" HDPE - Bagwell St. to NE 60th	2700	LF	\$63		\$171,000
(6) 12" HDPE - NE 60th to Snoqualmie Trail	2650	LF	\$96		\$255,000
(8) 12" HDPE - Snoqualmie Trail	10000	LF	\$60		\$600,000
Support from culvert bridge (along NE 60th)	1	LS	\$40,000		\$40,000
(9) Jacked/Bored Crossings	2	LS	\$100,000		\$200,000
(10) Wetlands at SWA	1	LS	\$600,000		\$600,000
24 Hour Emergency Storage (steel tank)	1	LS	\$280,000		\$280,000
Vert Pump in Standpipe, 975 gpm, 25' TDH	1	LS	\$80,000		\$80,000
Mechanical Valves and Appurtenances	1	LS	\$70,000		\$70,000
(11) Estimating Contingency	25	%		+	\$610,000
<i>Capital Costs Subtotal</i>					<b>\$3,049,000</b>
Contractor Overhead and Profit	10	%			\$305,000
Sales Tax	8.8	%		+	\$295,000
<i>Direct Construction Cost Subtotal</i>					<b>\$3,649,000</b>
(12) <i>Easement Allowance</i>	2700	LF	\$14		<b>\$38,000</b>



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<u>Allied Costs</u>					
Consultant services					
30% design					\$92,000
Final design					\$110,000
CM Support Services	4	%			\$12,000
KC Admin and other allied costs				+	\$100,000
<i>Allied Costs Subtotal</i>					<b>\$314,000</b>
<b>Total Conveyance/Discharge Project Costs (Feb 2005)</b>					<b>\$4,001,000</b>
<b>Total Project Cost</b>					<b>\$16,045,800</b>

**General Notes:**

- (1) The cost estimate herein is based on our perception of current conditions. The estimate reflects our professional opinion of accurate costs at this time and is subject to change as the project design matures.
- (2) Carollo Engineers has no control over variances in the cost of labor, materials, equipment, services provided by others, contractor's methods of determining prices, competitive bidding or market conditions, practices or bidding strategies.
- (3) Carollo Engineers cannot and does not warrant or guarantee that proposals, bids or actual construction costs will not vary from the costs presented herein.
- (4) General Exclusions: All costs associated with the identification/mitigation of hazardous materials. All costs associated with historical/cultural discoveries on site. All costs associated with dewatering.

**Facility Notes:**

- (5) Foundation pilings are not anticipated to be required for the project based on recent soil borings on the site.

**Conveyance and Discharge Notes:**

- (6) Asphalt paved roads with no curbs or gutters. Open-cut trenching costs include 10 ft wide pavement demolition, earthwork, and pavement restoration. Assumes excavation to an average of 5 ft below ground surface, traffic control, and 50% native backfill above pipe zone. Does not assume costs for shoring.
- (7) Open-cut trenching costs include earthwork and gravel surface restoration. Assumes excavation to an average of 5 ft below ground surface and use of 75% native backfill above pipe zone. Does not assume costs related to shoring. Easement allowance for conveyance right-of-way listed separately.
- (8) Open-cut trenching costs include earthwork and gravel surface restoration. Assumes excavation to an average of 5 ft below ground surface and use of 100% native backfill above pipe zone. Does not assume costs related to shoring or traffic control.
- (9) Highway intersection allowance includes setup/removal, 80 LF of 36" dia bored casing, and 2 40 ft long, 12 ft wide boring pits.
- (10) Assumes 10 acres at \$60,000 per acre.
- (11) Conceptual cost estimate.
- (12) Street.